



## Knowledge, Awareness and Practice Regarding Needle Stick Injuries in Dental Profession in India

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### DEAR EDITOR,

Needle stick injuries (NSIs) has always been one of the most important risk factor for health care workers (HCWs) for transmission of various infections such as hepatitis B, hepatitis C, and human immunodeficiency virus.<sup>[1]</sup> Variety of procedures like needle recapping, injuries sustained in the operating room, blood collection or intravenous line administration, suturing, checking blood sugar etc., can lead to accidental NSIs [Table 1].<sup>[2,3]</sup> Although modern dentistry has been cited as the least hazardous of the all the occupations, risks like NSI still challenge the status of this occupation.<sup>[4]</sup> Compared with many other health care settings, dental professionals are at higher risk of acquiring infections due to the fact that dentists work in a limited-access and restricted-visibility field and frequently use sharp devices.<sup>[5]</sup>

Every year about 16 billion injections are administered in developing and transitional nations and approximately three million individuals are injured annually due to needle stick and sharp injuries.<sup>[6]</sup> These types of blood-borne exposures can be career and life-ending. There is gross under reporting of NSI and therefore the incidence of NSI is higher than the current estimates.<sup>[7]</sup> In developing countries such as Ghana, Indonesia and Uganda, 80–90% of patients who visited a health center received one or more injections per visit.<sup>[8]</sup> Another study reported a high incidence of needle stick and sharp injuries among HCWs in Jordan.<sup>[9]</sup> In a country like India, in spite of large number of awareness programs, it is not possible to estimate the annual incidence of NSI in different occupations because of scarcity of data.<sup>[1]</sup> Very few studies that have been conducted among dental HCWs reporting their knowledge, awareness and practice regarding NSI.

Findings of a study conducted on dental students reported that on an average 89.23% of the students had correct knowledge about NSI and 89% of them were aware of taking postexposure prophylaxis (PEP) after an accidental NSI.<sup>[10]</sup> According to some other study reports, 11% of the students were not aware that the virus could be transmitted through infected needles and found that 44% of the students would destroy the needle using needle destroyer and 15% would destroy in puncture-resistant container with disinfectant.<sup>[11]</sup> Only 39.8% of the health care students could correctly define sharp instrument injury in some other study reports and 75.4% of the students experienced sharp instrument injuries during the last 1-year and 52.3% of the sharp instrument injuries occurred during administration of local anesthetic injection.<sup>[12]</sup> Reports of another study revealed that 88% of the dental students were aware of the occupational blood-borne diseases, and 75% of them reported exposures majority of who were postgraduate students.<sup>[13]</sup>

It can be concluded that knowledge, awareness and practices of the dental students in among different studies is adequate though there is considerable variation in practice and management of NSI. Not every NSI can be preventable, but according to research 83% of injuries from hollow-bore needles can be prevented.<sup>[14]</sup> The present article also concludes that for prevention of NSI, knowledge and awareness amongst dental HCWs should be increased. More studies should be conducted involving dentists and other dental professionals as there is scarcity of literature on knowledge and awareness levels of dentists in India. Various health and safety measures can be adopted to decrease the incidence of NSI.

- Workers should be properly trained

**Table 1: Various determinants of NSIs**


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Excessive of injections and unnecessary sharps  
 Lack of supplies: disposable syringes, safer needle devices and sharps-disposal containers  
 Lack of access to and failure to use sharps containers immediately after injection  
 Inadequate or short staffing  
 Recapping needles after use  
 Lack of engineering controls such as safer needle devices  
 Passing instruments from hand to hand in the operatory  
 Lack of awareness and lack of training

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NSI=Needle stick injuries

- Personal protective equipment and clothing should be provided
- An effective occupational health and safety program should be established that includes immunization, PEP, medical and dental surveillance.

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